

August 11, 2004

**REVISED COPY**

AQUA RECYCLE  
JEFF LEBEDIN  
1061 TRIAD COURT SUITE 9  
MARIETTA GA 30062-2259

Re: Description: GRAYWATER REUSE SYSTEM  
Manufacturer: AQUA RECYCLE  
Product Name: AQUA RECYCLE LAUNDRY WASH WATER RECYCLE SYSTEMS  
Model Number(s): EMI 200-3MG, EMI 200-5MG, EMI 200-7MG, EMI 200-12MG, EMI 200-18MG,  
EMI 200-25MG, EMI 300-30MG, EMI 300-40MG, EMI 300-50MG AND  
EMI 300-60MG  
Product File No: 20040126

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of August 2009.

This approval is contingent upon compliance with the following stipulation(s):

➤ A plumbing plan must be submitted and approved prior to each proposed installation in accordance with Comm 82.20 (1) (a) 2. A Plumbing Plan Review must be successfully completed prior to each proposed installation. A minimum of four sets of completed plans and specifications, signed by a Wisconsin registered Architect, Designer, Engineer or licensed Master Plumber shall be submitted along with the following specific information:

- a. A "Plumbing Plan Review Application" (i.e. SBD-6154) and required fee;
- b. A scaled plot plan;
- c. A scaled floor plan;
- d. A drain, waste and vent system (i.e. DWV) isometric drawing for the engineered graywater system;
- e. A non-potable water system isometric drawing;
- f. A potable water system isometric drawing;
- g. A maintenance manual addressing all serviceable components or systems;
- h. A written contingency plan; and
- i. Water calculation worksheets:

1. The complete non-potable water system; and
2. The complete potable water system

j. A copy of this approval letter

For system installations that include irrigation and/or infiltration, the following information must also be provided:

- k. The soil type; and
- l. Infiltration rate

After the plan review process is complete, and the installation is finished, the State Plumbing Consultant, assigned to the county in which the installation is located, shall inspect the completed installation. The final installation shall be completed and passed before the system is put into service.

- A copy of a deed attachment, and a copy of the cancelled check made out to the Register of Deeds in the county the proposed installation will be located, must be sent along with each Plumbing Plan. The deed attachment must contain the following minimum information:

1. A written functional description of the system and it's anticipated effects;
2. A written statement by the owner that specifically acknowledges that if the maintenance of the system is not performed on schedule, or quarterly reports are not received in time, the system will be ordered shut down and removed.

Plumbing Plans submitted without a deed attachment will not be reviewed. Any initial start-up water, or make-up water, added to these systems must be supplied from a NR 811 or NR 812 approved source.

- Any wastewater or waste materials (e.g. sludge, scum) withdrawn from these systems must be disposed of in accordance with NR 113.
- In addition to department approved plans, if the final effluent from these systems is discharged below the surface of a soil, then at least one of the following must be true:

1. There must be a minimum of one foot of separation between the point of infiltration and groundwater; or
2. The wastewater must contain 0 fecal coliform per 100 ml.

- These tanks must be designed to withstand the pressures to which they will be subjected.
- Installation and servicing of these systems must be performed in accordance with the manufacturers written instructions and this approval letter. A copy of the manufacturer's installation and servicing instructions, and a copy of this approval letter, must be given to the owner of each system.
- A permanent tag or label must be affixed to these experimental systems in a location that is visible after installation is complete. The tag or label must display the following minimum information:
  1. The complete name and mailing address of the manufacturer;
  2. The telephone number of the manufacturer; and
  3. The model number of the experimental system

- Monitoring of this system shall be performed by Wisconsin licensed POWTS Maintainers, Wisconsin licensed Master Plumbers or Wisconsin licensed professional Engineers.

The maintenance of this system may be performed by an unlicensed individual.

- The Atlantic Ultraviolet Corp. "Ster-L-Ray" UV disinfection units used within these systems must include the "Guardian" UV monitor. The minimum failsafe dosage must be greater than or equal to 30 millijoules (i.e. 30,000 uWsec/cm<sup>2</sup>). If the minimum failsafe dosage is not being achieved, then the "Guardian" monitor shall immediately signal the programmable logic controller (PLC) to shut down the supply pump to halt the flow of water.

A prerequisite for the use of the Atlantic Ultraviolet "Ster-L-Ray" UV disinfection units within these systems is the functional presence of ozone injection systems serving both the initial holding tanks (IHTs) and final holding tanks (FHTs).

Fixed rate flow controls must be installed on the inlet piping to the "Ster-L-Ray" disinfection units such that the flow rates do not exceed the rated service flow rates at which the 30 mJ minimum dosages were measured.

- Samples of the treated graywater shall be collected biannually, while the system is in full operation, and analyzed for the following specific parameters:
  1. Fecal coliform (not detected);
  2. BOD5;
  3. Oil and grease;
  4. pH;
  5. Nitrogen (organic)
  6. Total organic carbon;
  7. Volatile organics
- A copy of the stamped and approved plan for a specific installation site, along with a copy of this approval letter, must be submitted to the Plumbing Consultant of authority within the district in which the installation will occur prior to the Plumbing Consultant's final inspection, prior to system start-up. To determine the proper Plumbing Consultant to contact for a given installation site, first, determine the county of the proposed installation. Then access to following web site:

<http://commerce.wi.gov/SB/SB-PlumbingConsultantsMap.html>

Use the map to determine the district number that the pertinent county lies within. Then determine the Plumbing Consultant responsible for that district. The contact information for the Consultant is given at the bottom of the page.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation that may result from its use.

Sincerely,

Glen W. Schlueter  
Engineering Consultant-Plumbing Product Reviewer  
Bureau of Integrated Services  
Safety and Buildings Division  
Department of Commerce  
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